In re Application of WANG et al.
Serial No. 10/808,877

**Listing of the Claims:**

1.    (currently amended)     A computer-readable medium having
computer-executable instructions, comprising:

performing ordinary error checking until a system crash of a particular type
occurs; and

after the system crash, power on self tests, and initiation of booting to an
operating system, executing instructions and automatically performing enhanced
error checking <u>including checking for memory corruption</u>, the enhanced error
checking performed depending on the particular type of system crash and operating
to assist in locating instructions or software components that caused the system
crash.

2.    (original)     The computer-readable medium of claim 1, further
comprising:

upon the system crash, storing a stop code that identifies the particular type
of system crash; and

after the power on self test and the initiation of booting to an operating
system, retrieving the stop code and determining the enhanced error checking to
perform based on the stop code.

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3.    (currently amended)        The computer-readable medium of claim 1,
wherein the enhanced error checking is performed prior to a user ~~diagnoses~~
diagnosis related to the system crash.

4.    (currently amended)        The computer-readable medium of claim 1,
wherein the enhanced error checking is performed without a user ~~diagnoses~~
diagnosis related to the system crash.

5.    (currently amended)        The computer-readable medium of claim 1,
wherein the enhanced error checking further comprises checking resource-related
operations.

6.    (original)      The computer-readable medium of claim 5, wherein the
resource-related operations comprise allocating and freeing memory.

7.    (currently amended)        The computer-readable medium of claim 6,
wherein checking the resource-related operations further comprises tracking each
allocation and freeing of memory performed by at least one process.

8.    (currently amended)        The computer-readable medium of claim 5,
wherein the resource-related operations are performed by drivers that execute in
kernel mode.

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9.    (currently amended)      The computer-readable medium of ~~claim 5~~ claim 1, wherein the resource-related operations __further__ comprise allocating and freeing page table entries.

10.    (canceled).

11.    (currently amended)The computer-readable medium of ~~claim 10~~ __claim 1__, wherein the memory corruption occurs in memory reserved for kernel processes.

12.    (original)    The computer-readable medium of claim 11, wherein the memory corruption occurs by a kernel process writing to a block of memory after the kernel process has freed the block of memory.

13.    (original)    The computer-readable medium of claim 11, further comprising loading a driver verifier to monitor actions of one or more of the kernel processes.

14.    (currently amended)      The computer-readable medium of claim 13, wherein the driver verifier provides a memory block to the one or more kernel processes, __and__ wherein the memory block is marked to remain in memory.

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15.     (currently amended)     The computer-readable medium of claim 14,

wherein the memory block is aligned with the end of a page of memory having a

following page, and wherein the following page is marked as inaccessible, such that

an access to the following page results in an access violation.


16.     (currently amended)     A computer-readable medium having

computer-executable instructions, comprising:

storing information associated with the system crash of a particular type, the

information including a stop code that identifies the particular type of system crash;

reading the stop code from the information, wherein reading the stop code

occurs after an operating system begins executing; and

automatically initiating a diagnostic procedure associated with the stop code,

the diagnostic procedure designed to identify an instruction or software component

that caused the system crash by collecting data tailored to identifying errors of the

particular type that caused the system crash.


17.     (canceled).


18.     The computer-readable medium of claim 17 claim 16, further

comprising changing the stop code before initiating the diagnostic procedure to

select the diagnostic procedure.


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19.     (canceled).


20.     (new)        A computer-readable medium having computer-

executable instructions, comprising:

performing ordinary error checking until a system crash of a particular type

occurs; and

after the system crash, power on self tests, and initiation of booting to an

operating system, executing instructions and automatically performing enhanced

error checking, the enhanced error checking performed depending on the particular

type of system crash and operating to assist in locating instructions or software

components that caused the system crash, and wherein the enhanced error

checking comprises checking resource-related operations including allocating and

freeing memory.


21.     (new) The computer-readable medium of claim 20, wherein checking

the resource-related operations comprises tracking each allocation and freeing of

memory performed by at least one process.


22.     (new)        A computer-readable medium having computer-

executable instructions, comprising:

performing ordinary error checking until a system crash of a particular type

occurs; and

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after the system crash, power on self tests, and initiation of booting to an

operating system, executing instructions and automatically performing enhanced

error checking, the enhanced error checking performed depending on the particular

type of system crash and operating to assist in locating instructions or software

components that caused the system crash, wherein the enhanced error checking

comprises checking resource-related operations, and wherein the resource-related

operations are performed by drivers that execute in kernel mode.


23.    (new)        A computer-readable medium having computer-

executable instructions, comprising:

performing ordinary error checking until a system crash of a particular type

occurs; and

after the system crash, power on self tests, and initiation of booting to an

operating system, executing instructions and automatically performing enhanced

error checking, the enhanced error checking performed depending on the particular

type of system crash and operating to assist in locating instructions or software

components that caused the system crash, wherein the enhanced error checking

comprises checking resource-related operations including allocating and freeing

page table entries.

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